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AUTHOR Romano, Richard M.
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ABSTRACT

This exploration of community college financing applies selected constructs and theories from the field of economics to the question of public financing of two-year vocational/technical and general education programs. First, the criteria of efficiency and equity are explained in terms of their use by economists in judging the appropriateness of public policy. Next, two analytical constructs used by economists in recommending educational policy are discussed: (1) the principle of externalities, which helps determine the benefits absorbed by other members of a society as a result of educating a single individual; and (2) the theory of human capital, which refers to the value of the income/earning potential embodied in individuals. Next, economic justifications are provided for the public funding of community colleges, including efficiency factors; economic development considerations; educational equity and its impact on social mobility and income levels; and educational outcomes as returns on students' economic investment in their schooling. Finally, the paper concludes that economics will influence many of the policies affecting community colleges in the future. (EJV)

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The INSTITUTE for COMMUNITY COLLEGE RESEARCH

BROOME COMMUNITY COLLEGE
STATE UNIVERSITY OF NEW YORK
P.O. BOX 1017
BINGHAMTON, N.Y. 13902
(607) 771-5000

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RAMBLINGS OF AN ECONOMIST ON THE COMMUNITY COLLEGE: A THEORETICAL PRIMER

By Richard M. Romano

The most influential economist of the 20th century John Maynard Keynes once said that "soon or late, it is ideas, not vested interests, which are dangerous for good or evil."[1] While Keynes may have overestimated the influence of economists on public policy, and underestimated the role of vested interests, it is nevertheless interesting to look at how economists have viewed the public financing of those areas of education most closely associated with the community college. In what follows I have tried to sketch, very briefly, a few of the theoretical ideas in the economists' basket of tools which can be applied to the question of the public financing of the vocational/technical and general education programs generally found at these colleges.[2]

In judging the appropriateness of public policy, economists employ the dual criteria of efficiency and equity. Efficiency is not solely concerned with producing a good or service at the lowest cost but is more broadly interpreted by economists as a measure of how well society's scarce resources are allocated in accordance with consumer choices which balance the costs of producing a good or service against its presumed benefits. We become more efficient when the total benefit of producing, let's say more education, exceed, as widely as possible, the costs of producing it. In addition, efficiency would improve when those groups of individuals who benefit from an activity also pay for it. But this efficiency criterion is often tempered by concerns over equity, a more subjective concept that deals with the impact

of a policy on society's distribution of income. In considering the short run impact of financing the community college in a particular way,we might ask, for instance, which social groups benefit from the programs and which groups pay for them. A longer run analysis would force us to look at the impact of this type of subsidy on the life-time distribution of earning.

Using efficiency and equity as my guiding principles, I plan to discuss two analytical constructs used by the economist in recommending educational policy. The two constructs are the principle of externalities and the theory of human capital.

Economists are interested in the economic and social effects of education, not only because a good deal of society's resources are allocated to education, but also because widespread benefits are attributed to it. Benefits which are exclusive to the individual being educated are referred to as private or internal benefits, while those which spill over to other individuals (society) are referred to as external benefits or positive externalities. The private benefits,plus the benefits absorbed by other members of the society as a result of educating a single individual,are equal to the social or total benefits of educating that individual. Costs may be divided in a similar manner. We shall use the idea of positive externalities to suggest the appropriate mix of public and private funds which might be used to support the educational programs at the community college.

A long tradition in economics also views education as an investment in human capital which increases the recipient's productivity and therefore lifetime earnings.[3] The concept of human capital refers to the value of the income- earnings

potential embodied in individuals. By attending college, most students, particularly at the community college, believe that they are building their human capital. Of course students may enjoy the process of education itself (it may increase their satisfaction or psychic income, now, or in the future), and in this sense education represents the consumption of a service which is no different than the consumption of any other item. This conception of human capital is related to the principle of externalities as it applies to education because the investment and consumption components of education generate the private benefits to individuals that we referred to above. Equity considerations aside, economists would argue that efficiency would improve if individuals pay for that portion of their education that benefits them directly. Likewise, those benefits which cannot be captured by individuals and which spill over to the other members of society should be paid for through tax revenues, if collectively we believe that these external benefits are worth the costs. Probably the most important external benefit attributed to higher education is "the development of an informed citizenry, without which democratic institutions could not survive."[4] Education also benefits society as a whole because it contributes to economic growth, makes people better neighbors, keeps down crime and welfare type expenditures, and generally improves the quality of life.

If education generates the type of positive externalities mentioned above, then economists would predict that it will be underproduced unless it is subsidized in some way by the public sector. The reason for this is that when individuals make a decision to invest in a college education they only compare the

private costs against the private benefits of the activity. This undervalues the benefits of education,since social or total benefits are greater than private benefits. Public subsidies which lower the costs of education are therefore justified because they increase the production of education to that level which individuals would have chosen had they been able to consider all of the benefits to be derived by their enrollment. Since the community college presumably generates external benefits that are similar to other forms of higher education,some public support seems justified on efficiency grounds. Ideally the appropriate public/private funding mix should be apportioned to coincide with the impact of the benefits generated. As a practical matter, however, it is impossible to be precise about where these benefits fall. After an exhaustive review of the research on community colleges,Breneman and Nelson concluded that local governmental support was justified for most programs and that tuition should not exceed 1/3 of the current operating costs. After examining both equity and efficiency considerations they also suggested that a low (or no) tuition (full public subsidy) policy might be justified for remedial courses but they found no strong case for public support of the personal enrichment,non-credit courses,that are so much a part of the community college scene.[5]

Looking at another aspect of the justification for public subsidies to the community college it is interesting to speculate on whether the nature of the mix of programs at these colleges would affect our conclusions. Since this mix is more heavily weighted toward technical/vocational training than that in the typical 4-year college, the justification for subsidies to the

2-year college on efficiency grounds might not be as strong. Leaving the technical literature aside, the following statements from works written for the general public are examples of the feeling of economists on this point.

In his classic work Capitalism and Freedom, Nobel prize winner Milton Friedman says:

> Vocational and professional schooling has no neighborhood (external) effects of the kind attributed ... to general education. It is a form of investment in human capital precisely analogous to investment in machinery,buildings, or other forms of non-human capital. Its function is to raise the economic productivity of human beings. If it does so, the individual is rewarded in a free enterprise system by receiving a higher return for his services than he would otherwise command.[6]

The policy implications of Friedman's position are similar to those found in the following statement by the authors of the popular Economics of Public Issues, a widely used book in introductory economics courses throughout the U.S.

> ...it is not obvious that government should be subsidizing that part of schooling which is technical in nature. The positive externalities ...appear historically to have come from general education... Unless it can be shown that technical education also generates positive externalities, there may be no valid argument for its subsidization.[7]

In New York State, if we look at the differential in program funding within the community college,we find that the technical areas receive higher subsidies for the simple fact that they are higher cost programs. But, this may not be justified on efficiency grounds. Of course, as we have stated,the whole problem of externalities is complicated by the difficulty in measuring them,but on the surface it appears as if the public sector should give heavier relative support to general,and probably remedial,education than it now does. This means that a greater

share of the cost of technical/vocational programs or courses should fall on the shoulders of those individuals who benefit from them unless we can find some other justification for public support.

One such reason,which advocates of these programs give,is that by providing a pool of skilled labor,the community colleges help to attract or hold industries for the area. Subsidies are thus justified as part of a strategy for economic development in which regions compete with one another for jobs and a broader tax base. From the standpoint of the firms, of course, it might be profitable to transfer the cost of training their workers to the public sector. But one might wonder whether, from society's point of view, it would not be cheaper to have the firms themselves undertake the kind of training found at the community college. Looking at the matter more closely, however, we can see that the question is a complex one. In keeping with our previous analysis of the principle of externalities, we could argue that, in the face of no publicly financed training programs, fewer people would be trained than is economically justified when all of the benefits from training are considered. The reason for this is that firms have no way of guaranteeing that they will be able to reap sufficient benefits to cover the costs of training since a worker could move to another firm before these benefits can be captured. Fortunately, for other reasons, we have outlawed slavery and indentured service contracts, two systems which more or less guaranteed that the return would be adequate. In face of this uncertainty,then, we would not get adequate numbers of technicians trained without public support. To dispel any notion that we have

somehow found a final solution to this question, let me say that the latter analysis depended on the assumption that firms would find the kind of training done at the community college of such value to them that they would be willing to support it financially to some extent. Evidence of the lack of such support would lead one to question the wisdom of using public funds for this purpose.

We might also be able to make a case for public financing of technical/vocational training on equity grounds. In order to do this we need to ask questions about which groups benefit from this type of education and which groups pay for it. The problems associated with assessing the impact of benefits and costs on different groups of people is very complex. Not only is the concept of equity a highly subjective one but studies differ widely on the net impact of programs because they use different methodologies and data sets. This makes reliable judgments on the equity question difficult. It is not surprising then that some studies have shown that expenditures on higher education benefit the more affluent at the expense of the poor,[8] while others show the opposite result[9]. Looking at the community college it is probably a fair guess that the net benefits are greater for lower income groups. Studies done in the 1960's and 70's indicate that technical/vocational programs, in particular, were more likely to attract students from lower socio-economic groups than general education/transfer programs[10]. Although the class composition of these college programs may be changing in the 1980's, public financing of community college technical/vocational programs probably moves the society toward a more equal distribution of income. This is probably more true in New York State than in some

others areas of the country because of the State's moderately progressive tax structure and a tuition assistance program which favors low income students.[11]

Our discussion of equity thus far has failed to mention that the chief justification for a public subsidy to community colleges, and perhaps to technical/vocational programs in particular, may be to provide an avenue for upward social mobility for those groups who had been denied access to higher education in the past. This of course is another way of looking at the equity or "fairness" criterion that we have already introduced. In this respect the community college would be an equalizing force if it were to increase access by lower income groups(equalizing opportunity) and to higher paying/status jobs(equalizing outcomes). As evidence that the community college is meeting the first of these goals, its supporters are able to show that, "compared to students in other sectors of higher education, those in community colleges are more likely to be, on average, less wealthy, members of minority groups,older, part-time, working,and less well prepared."[12] While critics of the community college generally agree with these descriptive statistics they are quick to point out that improved access does not infer improved outcomes. To many in this group the community college is seen as an agent which rigidifies the class structure in society by tracking students from lower income families into jobs commensurate with their social orgins.[13] At this point we have not studied the long-run impacts of the community college enough to know if this argument is correct.

There is much more to say on the issue of outcomes but it would take us into areas which are well beyond the brief primer on economic issues that I had envisioned. One way of speculating on the outcomes question, however, brings us back to the theory of human capital that we introduced earlier.

You will recall that one reason students are willing to spend time and money on a college education is that they are expecting some return on their investment in the form of higher lifetime earnings. This return can be expressed as an annual percentage rate which can be compared against what other investment opportunities would yield. For education to be worthwhile, from a purely earnings standpoint, the rate of return should equal or exceed that of alternative uses of the money spent on it. This has generally been shown to be the case for both private (for the individual) and social (for the society) rates of return. Human capital studies which attempt to isolate the effect of schooling on earnings, by controlling for such factors as ability, sex, race, socio-economic backgrounds and a number of other variables, have produced very tentative results, and have been concentrated on the high school and 4-year college levels of education. While surprisingly few studies of this type have been on the community college graduate I would expect on a priori grounds that the private rate of return would be somewhere between that of a high school graduate (usually in the 13-20% range) and a four year college graduate (usually in the 8-15% range).[14] Because students pay only a portion of the cost of their education and receive all of the consumption and investment benefits, at least from the standpoint of the individual, it probably pays to go to the

community college. This does not mean that once total (societal) costs and benefits are calculated that this type of education is worth undertaking. Neither does it mean ,from the individuals point of view,that all programs are worth the cost or that all individuals benefit. There is some evidence,in fact,that the most capable students students at the community college would have enhanced their chances of obtaining a bachelor's degree if they had started at a 4-year school.[15] Finally it must be stressed that speculations on the outcomes of a community college education based on the theory of human capital have very little empirical support at this time,and much more needs to be done with this group before even tentative conclusions can be suggested.

Since economic research on the community college has been scarce, one should be cautious about drawing policy conclusions from the analysis presented in this paper. Nevertheless, it would be wise to be familiar with these ideas, because, if we believe in Keynes' dictum ,they are ideas that are likely to be found behind many of the policies affecting community colleges in the future.

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FOOTNOTES

1. John Maynard Keynes, The General Theory of Employment, Interest, and Money (Harcourt,Brace,1962), p.384.

2. For a more detailed discussion see: David W. Breneman and Susan C. Nelson, Financing Community Colleges- An Economic Perspective (Brookings Institution,1981).

3. The link between education and earnings cannot be denied. However, it is not clear what it is about education that leads to increased earnings. Our assumption here is that education increases productivity through the teaching of knowledge and skills which are useful in the workplace. An alternative explanation for higher education might be that educational credentials serve as a screening device for employers which help them identify pre-existing abilities or skills. Some combination of productivity and screening is, of course, possible. It is interesting to speculate on the community college student in this regard. Some research into organizations shows that workers are rewarded if they 1) internalize the enterprise's goals and values, 2) are predictable and dependable, 3) are disciplined and follow company rules. One might hypothesize that many students at the community college will hold jobs where these kinds of behavior are most valued and that independence and ingenuity are attributes valued in positions not generally attained by community college graduates. If education is mainly a screening device of this type,

then many would argue that the public funding of education is a huge waste of funds. Surely a shorter and less costly screening mechanism could be found. It is not clear to me that this is true. That is, I am not convinced that education is a poor way of screening for good workers. As a teacher I may have a difficult time accepting it, but that may not mean that public support of higher education is an inefficient use of resources.

4.Elchanan Cohn, The Economics of Education (Ballinger, 1979), p.35.

5.Breneman and Nelson, Financing...,pp.202-08.

6.Milton Friedman, Capitalism and Freedom (University of Chicago Press,1962), pp.100-01.

7.Douglass C.North and Roger LeRoy Miller, The Economics of Public Issues, 4th.ed.(Harper & Row,1978), p.149.

8. As examples see: W. Lee Hansen and Burton A. Weisbrod, Benefits,Costs, and Finance of Public Higher Education (Markham, 1969). and Douglas M. Windham, Education, Equality and Income Redistribution (D.C. Heath,1970).

9. As examples see: Joseph A. Pechman, "The Distributional Effects of Public Higher Education in California," Journal of Human Resources, vol.5(Summer 1970), pp.361-70; and Walter Miklius, "The

Distributional Effects of Public Higher Education: A Comment," Higher Education, vol.4 (August,1975), pp.351-55.

10. For an example see: Jerome Karabel, "Community Colleges and Social Stratification," Harvard Educational Review, vol.42 (Nov., 1972), pp.521-62.

11. Gary Moore, "Equity Effects of Higher Education Finance and Tuition Grants in New York State," Journal of Human Resources, vol.13 (Fall,1978), pp.482-501; John K. Mullen, "Implications of Tuition Grants in Higher Education: The Case of a Prior Need-Based Aid Program," Economics of Education Review, vol.2 (Winter,1982), pp.49-65.

12. Breneman and Nelson, Financing..., p.22.

13. For a brief review of this literature see: Arthur M.Cohen and Florence B. Brawer, The American Community College,(Jossey-Bass, 1982), Ch. 13.

14. For a brief review of this literature see: Cohn, The Economics ..., Ch.6.

15. Breneman and Nelson, Financing..., pp.54-92.

The author is Professor of economics at Broome Community College, State University of New York and Director of the Institute for Community College Research.

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